

LIST OF CLAIMS

The list of claims provided below replaces all prior versions and lists of claims in the application. Claims 1, 5, 14, 16 and 21 are currently amended. Claims 4 and 20 are canceled. Accordingly, claims 1-3, 5-19, and 21-29 are pending.

Please amend the claims as follows.

1. (currently amended): An apparatus for determining the critical length of a conductor comprising:

at least one device under test (DUT) including a decoder and selection circuitry for each said DUT;

said at least one DUT including at least one test strip of a metal under test,

said at least one test strip formed from a series of segments of the metal under test.

2. (original): The apparatus of claim 1, wherein said apparatus includes a plurality of said DUTs, and wherein said segments of each of said plurality of DUTs has a unique length.

3. (original): The apparatus of claim 1, wherein said system is configured to detect electromigration in said DUT using Blech's law.

4. (canceled).

5. (currently amended): The apparatus of claim ~~[[4]]~~ 2, wherein said DUT is embodied within a integrated circuit.

6. (original): The apparatus of claim 5, wherein said integrated circuit containing said DUT is mounted on a hot chuck.

7. (original): The apparatus of claim 3, wherein said plurality of DUT include metal strips under test ranging in length from approximately 10 μ m to 320 μ m.

8. (original): The apparatus of claim 7, wherein said metal strips of said segments are coupled together with segments of a connecting metal.

9. (original): The apparatus of claim 8, wherein said connecting metal segments are approximately three times wider than the corresponding metal strip under test.

10. (original): The apparatus of claim 9, wherein said metal strips under test and said connecting metal are coupled with vias.

11. (original): The apparatus of claim 10, wherein said vias are formed from a electromigration-resistant metal.

12. (original): The apparatus of claim 11, wherein said vias are formed from tungsten.

13. (original): The apparatus of claim 3, wherein said system is further configured to detect a rising voltage drop across said metal strips under test.

14. (currently amended): A method for determining the critical length of a conductor comprising:

providing at least one DUT, said at least one DUT including at least one test strip of a metal under test and a decoder and selection circuitry, said at least one test strip formed from a series of segments of the metal under test;

providing a test signal to said at least one DUT;

sensing an output signal from said at least one DUT; and

determining the critical length of a conductor from said output signal.

15. (original): The method of claim 14, wherein said act of determining the critical length of a conductor is performed using Blech's law.

16. (currently amended): An apparatus for determining the critical length of a conductor comprising:

testing means for providing a test signal to at least one DUT, said at least one DUT including at least one test strip of a metal under test and a decoder and selection circuitry, said at least one test strip formed from a series of segments of the metal under test;

means for providing a test signal to said testing means;

means for sensing an output signal from said testing means; and

means for determining the critical length of a conductor from said output signal.

17. (original): The apparatus of claim 16, wherein said means for determining the critical length of a conductor is configured to use Blech's law.

18. (original): The apparatus of claim 16, wherein said apparatus includes a plurality of said DUTs, and wherein said segments of each of said plurality of DUTs has a unique length.

19. (original): The apparatus of claim 16, wherein said system is configured to detect electromigration in said DUT using Blech's law.

20. (canceled).

21. (currently amended): The apparatus of claim ~~[[20]]~~ 19, wherein said testing means is embodied within a integrated circuit.

22. (original): The apparatus of claim 21, wherein said integrated circuit containing said DUT is mounted on a hot chuck.

23. (original): The apparatus of claim 18, wherein said plurality of DUTs include metal strips under test ranging in length from approximately 10 μ m to 320 μ m.

24. (original): The apparatus of claim 23, wherein said metal strips of said segments are coupled together with segments of a connecting metal.

25. (original): The apparatus of claim 24, wherein said connecting metal segments are approximately three times wider than the corresponding metal strip under test.
26. (original): The apparatus of claim 25, wherein said metal strips under test and said connecting metal are coupled with vias.
27. (original): The apparatus of claim 26, wherein said vias are formed from an electromigration-resistant metal.
28. (original): The apparatus of claim 27, wherein said vias are formed from tungsten.
29. (original): The apparatus of claim 19, wherein said apparatus is further configured to detect a rising voltage drop across said metal strips under test.